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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:

Applicants : Gade et al.

Assignee : Delphi Technologies, Inc.

Serial No. : 10/696,517

Filed : October 29, 2003

Title : CONTROL OF MAGNETORHEOLOGICAL MOUNT

Docket : DP-304939

Examiner : Ronnie M. Mancho

Art Unit : 3663

Commissioner for Patents Post Office Box 1450 Alexandria, Virginia 22313-1450

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Sir:

This request for pre-appeal brief review is filed in response to the Office action mailed on May 30, 2008 and the advisory action mailed on July 29, 2008, and is accompanied by a notice of appeal and the required fee (\$510.00). Claims 24-30 and 38-46 are currently pending and have been finally rejected. Applicants and Assignee respectfully submit that the rejections are based upon factual and legal errors and, therefore, are clearly improper and without basis.

The pending claims of the present application are directed to the control of a hydraulic mount based upon the relative acceleration between a mounted object and a base. The control system that controls the mount includes at least one tunable parameter that is calibrated based upon the bounce resonance frequency of the mounted object. As such, the invention facilitates

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damping various objects having different bounce resonance frequencies by electronically altering the damping characteristics of the mount, thereby eliminating the need for physically redesigning the mount for different objects.

Claim 24 of the present application is representative and is fully reproduced below:

A method for controlling a hydraulic mount between an object and a base, the object having a bounce resonance frequency, the method comprising:

calibrating at least one tunable parameter of a control system of the mount based on the bounce resonance frequency of the object;

generating a first acceleration signal indicative of an acceleration of the object;

generating a second acceleration signal indicative of an acceleration of the base;

determining a relative acceleration across the mount based on the first and second acceleration signals;

generating a control signal responsive to the determined relative acceleration based on the at least one tunable parameter; and

controlling the flow of MR mount fluid in the mount responsive to the control signal to minimize the relative acceleration across the mount over a predetermined band of frequencies.

Thus, pending claims 24-30 require, among other things, "calibrating at least one tunable parameter of a control system of the mount based on the bounce resonance frequency of the object." Pending claims 38-46 include similar limitations.

Claims 24-30 and 38-46 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,060,919 to Takano et al. (the "Takano reference"). The Takano reference discloses a vibration damper charged with an electrorheologic fluid, wherein the viscosity of the electrorheologic fluid in an unactuated state (i.e., when no electric field is applied to the fluid) is selected to cope with the bouncing vibration of the engine mounted thereto.

The relevant portion of the Takano reference reads in its entirety:

In a practical example of application of the invention, applied to an engine mount for mounting the engine on the chassis of an automobile, the engine may exhibit a bouncing vibration of a

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frequency on the order of 15 Hz and a rolling vibration of a frequency on the order of 7 Hz. In such a case, the vibration damper may be constituted such that the viscosity of the fluid is tuned to cope with the bouncing vibration of the engine without supplying the electric current to the electrode plates 46 and 48 and, when the rolling vibration occurs, the electric current is supplied to the electrode plates 46 and 48 in response to the rolling vibration so as to increase the viscosity of the fluid, thereby offsetting the position of the peak of the damping coefficient to a level near 7 Hz.

(Col. 8, 11. 8-21 (emphasis added).)

Thus, the Takano reference discloses physically altering the vibration damper based upon the bouncing vibration of the mounted engine.

In contrast, the pending claims of the present application require calibrating at least one tunable parameter of the control system that controls the damper – not calibrating the damper itself. The Examiner's argument that physically altering a damper, as taught by the Takano reference, is the same as tuning a control system that controls a damper is clear factual error.

Inasmuch as the Takano reference does not disclose "calibrating at least one tunable parameter of a control system of the mount based on the bounce resonance frequency of the object," it is respectfully submitted that the Takano reference cannot, as a matter of law, anticipate the pending claims of the present application.

Prompt and favorable action is respectfully requested.

Respectfully submitted,

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